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RESEARCH

Interventions before consultations to help patients address their information needs by encouraging question asking: systematic review

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ABSTRACT

Objective To assess the effects on patients, clinicians, and the healthcare system of interventions before consultations to help patients or their representatives gather information in consultations by question asking.

Design Systematic review with meta-analysis.

Data sources Electronic literature searches of seven databases and hand searching of one journal and bibliographies of relevant articles.

Review methods Inclusion criteria included randomised controlled trials.

Main outcome measures Primary outcomes were question asking; patients' anxiety, knowledge, and satisfaction; and length of consultation.

Results 33 randomised trials of variable quality involving 8244 patients were identified. A few studies showed positive effects. Meta-analyses showed small and statistically significantly increases in question asking (standardised mean difference 0.27, 95% confidence interval 0.19 to 0.36) and patients' satisfaction (0.09, 0.03 to 0.16). Non-statistically significant changes occurred in patients' anxiety before consultations (weighted mean difference −1.56, −7.10 to 3.97), patients' anxiety after consultations (standardised mean difference −0.08, −0.22 to 0.06), patients' knowledge (−0.34, −0.94 to 0.25), and length of consultation (0.10, −0.05 to 0.25). Interventions comprising written materials had similar effects on question asking, consultation length, and patients' satisfaction as those comprising the coaching of patients. Interventions with additional training of clinicians had little further effect than those targeted at patients alone for patients' satisfaction and consultation length.

Conclusions Interventions for patients before consultations produce small benefits for patients. This may be because patients and clinicians have established behaviours in consultations that are difficult to change. Alternatively small increases in question asking may not be sufficient to make notable changes to other outcomes.

INTRODUCTION

Patients want more information from doctors and nurses[1-3] and yet the amount of information usually given is small.[4-6w1] Providing information is a key part of clinical care, which influences patients' satisfaction, compliance, recall, and understanding.[7-9] It is also associated with improved resolution of symptoms, reduced emotional distress, improved physiological status, reduced use of analgesia, reduced length of hospital stay, and improved quality of life.[10-14] Failure to give information or providing unwanted information can cause harm.[15]

Information giving may be poor because clinicians might underestimate patients' needs,[5 7 16-18] overestimate the amount of information they give,[19] lack the necessary skills,[16 20 21] or use jargon.[22] Furthermore, patients may feel unable to ask questions,[16 23-25] particularly patients with serious or life threatening diseases.[26-28]

Improving information giving presents challenges. Training clinicians can be expensive and may not improve performance or other outcomes.[29 30] As an adjunct or alternative, methods for helping patients identify and ask questions in consultations have been proposed, including coaching sessions,[w2] videos,[w3] and written materials, such as prompt sheets to encourage question asking.[w4] These methods are not widely used, however, and their effectiveness is not fully understood. We undertook a systematic review to assess the effects on patients, clinicians, and the healthcare system of interventions delivered before consultations designed to help patients, or their representatives, address their information needs within consultations. We report the principal findings from our published Cochrane review on this topic.[31]

METHODS

We used medical subject headings and text words (see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf) to search several databases: Cochrane Consumers and Communication Review Group specialised register, Cochrane central register of controlled trials (Cochrane Library, Issue 3, 2006), Medline (Ovid; 1966 to September 2006), Embase (1980 to September 2006), PsycINFO (1985

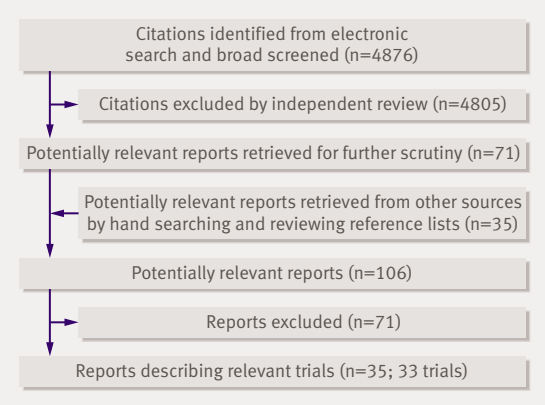

Fig 1 | Flow of papers

to September 2006), ERIC (1966 to September 2006), and CINAHL (1982 to September 2006). The searches were done in English but we considered citations in any language and all patient groups.

Selection

We required studies to be peer reviewed publications and to be a randomised controlled trial, to involve interventions directed at patients of any age consulting with doctors or nurses in healthcare settings, and to use interventions targeted at patients, or their representatives, delivered before the consultation and aimed to help patients address their information needs by encouraging, identifying, or otherwise facilitating question asking. We included studies that also provided training for clinicians provided that this was in addition to interventions for patients.

We excluded interventions provided during consultations and other interventions such as information leaflets and diaries of symptoms unless evidence was clear that the intervention was also intended to help patients consider their information needs and ask questions.

We focused on five outcomes (question asking, satisfaction, anxiety, knowledge, consultation length) that enable assessment of effects on both the consultation process and outcomes for patients and service providers. Anxiety was measured before and after consultations. When measured before consultations, if this was at the same time as the intervention we considered it as a baseline measure rather than an outcome of the intervention. If the intervention was delivered some time before the consultation and anxiety measured separately when the patient arrived for the consultation we considered the assessment to indicate the effects of the intervention.

Two reviewers (PK and HP, RR, or NC) independently assessed electronic outputs (abstracts) and the full text articles of potentially relevant studies. We also inspected reference lists of potentially relevant studies and related reviews[32-36] and hand searched the contents of *Patient Education and Counselling* from 1986 to September 2006. Disagreements were resolved by discussion or by seeking a third opinion (AE).

Data extraction and analysis

Two reviewers (PK and RR or NC) extracted data using a template covering key study characteristics. When studies used combined interventions, such as written materials and coaching, we used data on the effects of the combined intervention for the principal outcomes. We assessed the quality of studies by considering selection bias, performance bias, attrition bias, and detection bias.[37] In addition we gathered data on the adequacy of randomisation, with particular attention to concealment of allocation. Intention to treat analyses were used when available.

We carried out a narrative synthesis of the included trials. We then pooled data across studies and did meta-analyses for the five main outcomes. We calculated summary estimates of the intervention effects. If the same methods and units were used we determined weighted mean differences.[38] For outcomes measured using differing methods or when there was likely to be variation owing to the clinical context (for example, consultation length), we used the standardised mean differences.[38] To help with the interpretations of our findings we considered effect sizes of 0.2 as small, 0.5 as moderate, and 0.8 or greater as large.[39] When there was homogeneity across studies we used fixed effect models, and when there was heterogeneity we used random effect models to estimate effects. We examined potentially important effect modifiers on the outcomes measured, in particular for the effects of type of intervention (prompt sheets *v* coaching) and whether additional training for clinicians produced benefits. We undertook sensitivity analyses to take account of those studies without adequate concealment of allocation or that did not account for clustering in their design.

RESULTS

The search strategy identified 4876 citations, with 71 for possible inclusion after assessment of the full reports. Thirty five additional citations were identified from searching reference lists and from hand searching. Appraisal led to the exclusion of 71 papers, leaving 35 papers[w1-w35] describing 33 trials for inclusion in the review (fig 1).

Study characteristics and interventions

Table 1 describes the main characteristics of the 33 trials.[w1-w35] All the trials were published and in English. Thirty trials[w1-w14 w16-w28 w31-w35] reported on patients consulting doctors, two[w15 w29 w30] on patients consulting doctors or nurses, and one[w21] on patients consulting family planning care nurses.

A range of interventions was used of varying complexity, with some trials comparing different interventions and some interventions having multiple components (table 1). Twenty five trials[w4-w13 w16-w17 w19-w28 w31-w35] used written materials (question prompt sheets). In six of these,[w6 w13 w20 w21 w28 w33] additional coaching was provided to patients on how to ask questions. Five trials[w2 w15 w18 w29-w31] used coaching alone. In two trials[w10-w12 w20] brief instructions were used to encourage patients to ask questions. One

Table 1 | Details of included studies on interventions for patients before consultations to encourage question asking

Study	Country	No of patients randomised	Setting	Interventions for patients	Timing	Control groups
Bolman 2005[w5]	Netherlands	153	Cardiology	Question checklist before each of three consultations and training of clinicians	1 week before consultation	General information booklet
Brown 1999[w6]	Australia	60	Oncology	Question checklist; question checklist and coaching and training of clinicians	Just before consultation	Usual care
Brown 2001[w7]	Australia	318	Oncology	Question checklist and training of clinicians (2×2 design)	Just before consultation	Usual care
Bruera 2003[w8]	United States	60	Oncology	Question checklist	Just before consultation	General information sheet
Butow 1994[w4]	Australia	142	Oncology	Question checklist	Just before consultation	General information sheet
Butow 2004[w9]	Australia	164	Oncology	Question checklist	At least 2 days before consultation	General information sheet
Cegala 2000[w10-w12]	United States	150	Family practice	Question checklist; brief information and coaching	2-4 days; just before consultation	Usual care
Davison 1997[w13]	Canada	60	Oncology (urology)	Question checklist and coaching	Just before consultation	General information booklet plus "social" interview
Davison 2002[w14]	Canada	749	Oncology (breast cancer)	Computer program and coaching	Just before consultation	General discussion
Finney 1990[w15]	United States	32	Well baby clinic	Coaching	Just before consultation	General discussion
Fleissig 1999[w16]	United Kingdom	1208	Mixed outpatients	Question checklist	2 weeks before consultation	Usual care
Ford 1995[w1]	United Kingdom	117	Oncology	Audiotape of previous consultation	"Prior to" consultation	Usual care
Frederickson 1995[w17]	United Kingdom	80	General practice	Question checklist	Just before consultation	Usual care
Greenfield 1985[w18]	United States	45	Outpatients (peptic ulcer disease)	Coaching	Just before consultation	Discussion reviewing ulcer disease
Greenfield 1988[w2]	United States	73	Diabetic clinic	Coaching (delivered before each of two linked consultations)	Just before consultation	Discussion reviewing diabetes
Hornberger 1997[w19]	United States	101	Family practice	Question checklist	Just before consultation	General information sheet
Kidd 2004[w20]	United Kingdom	202	Diabetic clinic	Written message; coaching; coaching and rehearsal	Just before consultation	General discussion; usual care
Kim 2003[w21]	Indonesia	768	Family planning clinic	Question checklist and coaching	Just before consultation	Leaflet on HIV/AIDS plus discussion
Lewis 1991[w3]	United States	141	Paediatric clinic	Video, coaching, and written materials and training of clinicians	Just before consultation	Video on bicycle safety
Little 2004[w22]	United Kingdom	636	General practice	Question checklist	Just before consultation	Leaflet on depression; usual care
Maly 1999[w23]	United States	265	Family practice	Question checklist (delivered twice)	Just before consultation	Asked to suggest clinic improvements
Martinali 2001[w24]	Nether-lands	142	Cardiology	Question checklist	1 week before consultation	Information booklet about heart disease
McCann 1996[w25 w26]	United Kingdom	120	General practice	Question checklist	Just before consultation	Leaflet on healthy eating
Middleton 2006[w27]	United Kingdom	955	General practice	Question checklist and training of clinicians (2×2 design)	Just before consultation	Usual care
Oliver 2001[w28]	United States	87	Oncology	Question checklist and coaching	Just before consultation	Education on controlling cancer pain
Roter 1977[w29 w30]	United States	200	Family practice	Coaching	Just before consultation	Discussion of hospital facilities
Sander 1996[w31]	United States	129	Family practice	Question checklist	Just before consultation	Usual care
Sander 1996[w31]	United States	163	Family practice	Coaching	Just before consultation	Usual care
Tabak 1988[w32]	United States	101	Family practice	Question checklist	Just before consultation	Booklet on hospital facilities
Tennstedt 2000[w33]	United States	355	Family practice (elderly)	Coaching	Up to 3 months before consultation	Usual care
Thompson 1990[w34]	United States	66	Obstetrics and gynaecology	Question checklist	Just before consultation	Questionnaire about waiting room
Thompson 1990[w34]	United States	105	Obstetrics and gynaecology	Question checklist; message encouraging questions	Just before consultation	Questionnaire about waiting room
Wilkinson 2002[w35]	United States	278	Family practice	Question checklist	"Some time" before consultation	Usual care

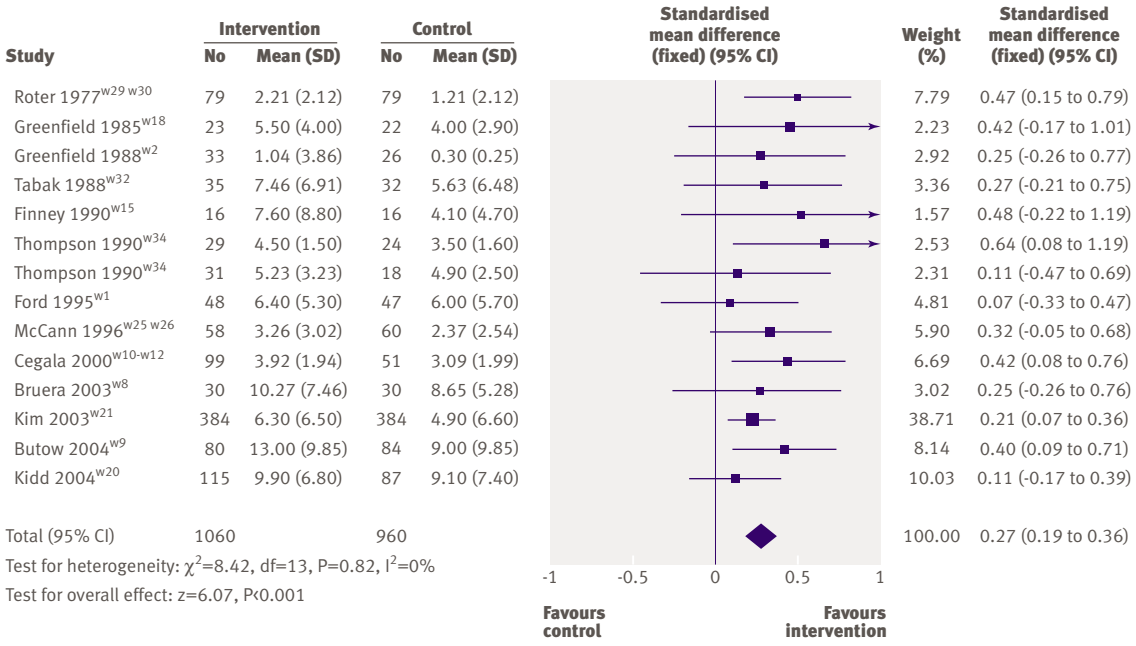

Fig 2 | **Effect of interventions before consultation to encourage patients to ask questions**

trial[w14] combined coaching with a computer program and another[w3] combined coaching with video and written materials. One study accessed patients' medical records of previous consultations[w23] and another used audiotapes of the previous consultation.[w1] In five trials[w3 w5-w7 w27] the clinicians also received training to enable them to answer patients' questions more effectively.

Methodological quality of included trials

The studies were of variable quality. Randomisation was by patient in 30 trials,[w1 w2 w4-w18 w20-w32 w34-w35] by clinician in two trials,[w3 w19] and by site of delivery of a community based intervention in one.[w33] In the last three trials no attempt was made to account for clustering. Only six trials[w5-w7 w20 w22 w27] provided sample size calculations.

Four trials[w1 w22 w27 w32] provided evidence of adequate concealment of allocation. Twenty four trials[w2-w16 w18 w20 w21 w24 w25 w28-w31 w34 w35] were judged to be unclear, usually as a result of insufficient information. Five trials[w10-w12 w17 w23 w31 w33] had inadequate concealment of allocation.

In the 18 trials[w1-w4 w6-w12 w15 w18-w21 w25 w30-w32] that used audiotapes or videotapes to gather data about the consultation, seven[w2 w8 w10-w12 w15 w18 w20 w32] used assessors blind to the patient's allocation. In addition, eight trials[w1 w2 w7 w9-w13 w19 w20] reported reliability checks using double rating of tapes. Only two trials[w7 w22] stated they used intention to treat analyses.

Quantitative data synthesis

Question asking

Seventeen studies[w1 w2 w6 w8-w12 w16 w18 w20 w21 w25 w26 w29 w30 w32 w34] measured question asking, with six[w6 w9-w12 w21 w29 w30 w34] finding statistically significant increases and the remainder no effects. Meta-analysis of the 14 studies with extractable data showed a small and statistically significant overall effect (standardised mean difference 0.27, 0.19 to 0.36; table 2 and fig 2).

Patients' anxiety

Anxiety before consultations was measured in four studies.[w1 w5 w9 w24] Two studies[w5 w24] found a reduction in anxiety, one[w9] an increase, and one[w1] no effect. Meta-analysis of the three studies with extractable date showed a large but non-statistically significant decrease in patients' anxiety (weighted mean difference −1.56, −7.10 to 3.97; table 2 and fig 3). In nine studies[w3 w6 w7 w13 w19 w22 w28 w34] anxiety was measured after the index consultation, with two studies[w19 w34] reporting a reduction in patient anxiety, one[w7] an increase, and six[w3 w6 w13 w22 w28 w34] no effect. Meta-analysis of the six studies with extractable data showed a small and non-statistically significant decrease (standardised mean difference −0.08, −0.22 to 0.06; table 2 and fig 4).

Patients' knowledge

Patients' knowledge was measured in five studies. Reductions in knowledge were found in two studies[w2 w5] and no change in three.[w18 w24 w28] In both the studies showing a decrease in knowledge, the intervention for the control group could have increased patients' knowledge, which might have affected the results. Meta-analysis of all five studies assessing knowledge found a small and non-statistically significant decrease (standardised mean difference −0.34, −0.94 to 0.25; table 2 and fig 5). This result was not substantially altered when the two studies of concern were removed from this meta-analysis (−0.26, −0.52 to 0.01; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf).

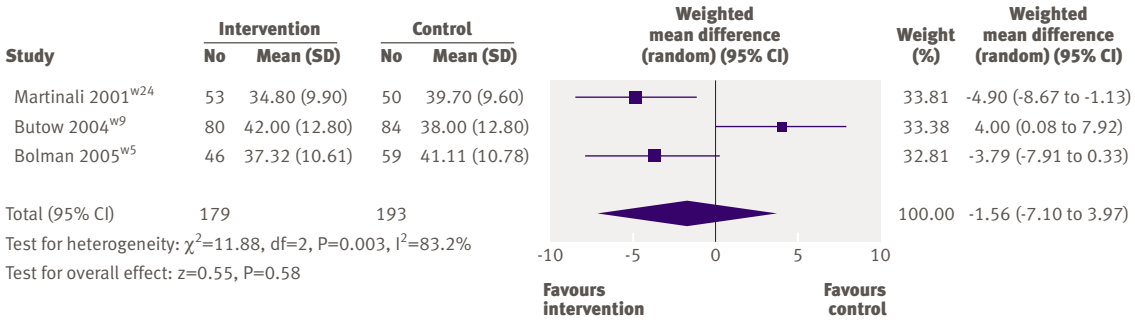

Fig 3 | Effect on patients' anxiety before consultations of interventions to encourage patients to ask questions in consultations

Patients' satisfaction

Patients' satisfaction was measured in 23 studies. In 14 studies[w2 w4 w5-w9 w14 w19 w24-w26 w28 w34] no changes were found and in five[w16 w22 w23 w29 w30 w34] satisfaction increased.[w16 w22 w23 w29 w30 w34] In two additional studies increases occurred only for particular aspects of satisfaction (depth of relationship,[w27] interpersonal satisfaction[w33]). In one study[w3] the satisfaction of child patients was increased but parental satisfaction was unchanged. No immediate effect was found in another trial,[w20] but satisfaction was increased at three months. Meta-analysis of 17 studies with extractable data for overall satisfaction immediately after consultation showed a small and statistically significant increase (standardised mean difference 0.09, 0.03 to 0.16; fig 6).

Length of consultations

Seventeen studies[w1 w2 w4 w7-w9 w18 w19 w21-w27 w29 w30 w34] measured the length of consultations; three[w19 w25-w27] found statistically significant increases in length and 13[w1 w2 w4 w7-w9 w18 w21-w24 w29 w30 w34] no effect. In the study by Bolman[w5] the length of the first of three linked consultations was decreased whereas the third was increased. Meta-analysis of 13 studies with extractable data on the effects of intervention on consultation length found a small and non-statistically significant increase (standardised mean difference 0.10, −0.05 to 0.25; fig 7).

To explore the effects of inadequate concealment of allocation and of clustering, effects and confidence intervals were recalculated without the five trials[w10-w12 w17 w23 w31 w33] considered to have inadequate concealment (table 3) and the three studies[w3 w19 w33] that used randomisation by clinician (table 4) as these cluster randomised trials may have overestimated effects. Recalculation resulted in small changes. Other studies might have been vulnerable to clustering effects, and the reported standard errors and confidence intervals may be overestimates.

Effect modifiers

Similar small to moderate and statistically significant increases were found in question asking for written materials (standardised mean difference 0.42, 0.26 to 0.59) and for coaching (0.36, 0.16 to 0.56; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf). Written materials led to a small and statistically significant increase in length of consultations (0.13, 0.05 to 0.21), and coaching produced a smaller, non-significant, change (0.07, −0.07 to 0.20; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf). Written materials produced a small increase in patients' satisfaction that was of borderline statistical significance (0.08, 0.00 to 0.16) and for coaching the effect was a small but statistically significant increase (0.23, 0.08 to 0.38; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf). The confidence intervals for the analyses of the

Table 2 | Effect sizes of interventions to encourage patients to ask questions in consultations

Outcome	No of studies	No of patients	Standardised mean difference (95% CI)
All studies			
Question asking*	14	2020	0.27 (0.19 to 0.36)
Patients' satisfaction*	17	3316	0.09 (0.03 to 0.16)
Anxiety before consultations	3	372	−1.56 (−7.10 to 3.97)†
Anxiety after consultations	6	809	−0.08 (−0.22 to 0.06)
Patients' knowledge‡	5	378	−0.34 (−0.94 to 0.25)
Consultation length	13	3406	0.10 (−0.05 to 0.25)
Written materials *v* coaching			
Question asking:			
Written materials	6	563	0.42 (0.26 to 0.59)
Coaching	5	414	0.36 (0.16 to 0.56)
Patients' satisfaction:			
Written materials	10	2354	0.08 (0.00 to 0.16)
Coaching	6	722	0.23 (0.08 to 0.38)
Consultation length:			
Written materials	10	2534	0.13 (0.05 to 0.21)
Coaching	3	872	0.07 (−0.07 to 0.20)
Clinicians' training			
Patients' satisfaction:			
Clinicians' training	3	821	−0.01 (−0.15 to 0.12)
No clinicians' training	15	2569	0.13 (0.05 to 0.21)
Consultation length:			
Clinicians' training	2	682	0.17 (0.01 to 0.32)
No clinicians' training	12	2798	0.17 (0.10 to 0.24)

*Two assumptions were made about data from study by Roter[w29]—that number analysed in intervention and control groups for outcomes of question asking and patients' satisfaction were equal and that means for patient's satisfaction in the two groups were 1.46 and 1.37 and not 146 and 1.37 as stated in text.
†Weighted mean difference.
‡In two studies[w4 w18] intervention for control group could increase patients' knowledge. Analysis was repeated with remaining three studies and a small and not statistically significant increase in knowledge was found (0.17, −0.09 to 0.43).

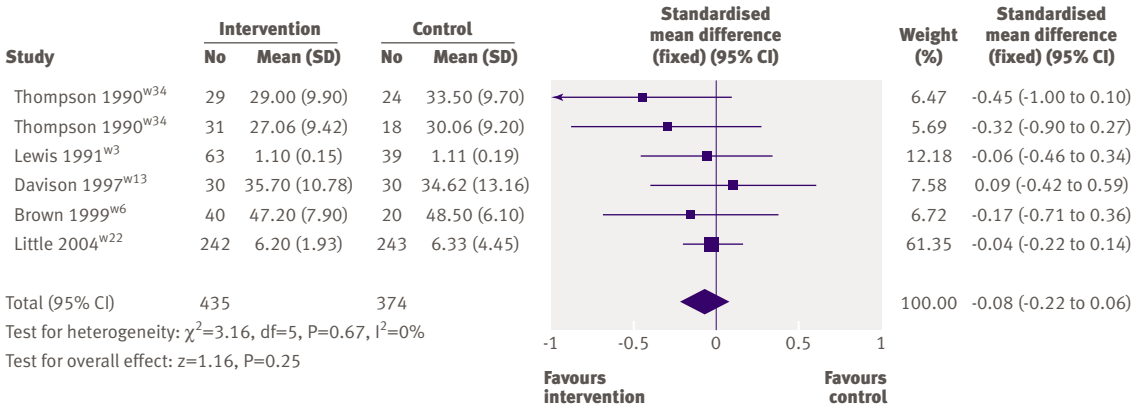

Fig 4 | Effect on patients' anxiety after consultations of interventions to encourage patients to ask question in consultations

effects of different types of interventions for all these analyses overlapped (table 2). This suggests that written materials and coaching have similar effects.

Three studies[w3 w7 w27] considered the additional effects of training clinicians and had extractable data on the effects of combined interventions (targeted at patients and clinicians) on consultation length and patients' satisfaction (control patients received usual care). Additional training had little impact on consultation length compared with patient only interventions (combined 0.17, 0.01 to 0.32 *v* patient only 0.17, 0.10 to 0.24; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf); the corresponding values for patients' satisfaction were 0.08 (−0.06 to 0.22) and 0.13 (0.05 to 0.21; see www.cf.ac.uk/medic/contactsandpeople/k/SupplementaryTablesKinnersleyetal.pdf). The confidence intervals for these analyses overlapped.

Two studies[w5 w27] assessed the impact of interventions directed at patients in the context of all clinicians receiving training (intervention and control groups). In one study[w5] the intervention produced a small non-statistically significant decrease in consultation length and no effect on patients' satisfaction (consultation length −0.49, −0.88 to −0.10, patient satisfaction 0.00, −0.39 to 0.39). The other study[w27] showed a small increase in consultation length (0.24, −0.05 to 0.43) and little effect on patient satisfaction (0.03, −0.16 to 0.22).

Although the evidence from these two analyses is limited it could be concluded that providing clinicians with training either combined with interventions directed at patients or delivered before the implementation of interventions directed at patients has no clear benefits.

Similar results to the main analyses were found when the analyses of effect modifiers were repeated without those trials considered to have inadequate allocation concealment and those that randomised by clinician (tables 3 and 4).

DISCUSSION

Thirty three randomised trials of interventions to help patients ask questions and gather information in consultations in a range of settings and countries were identified. Meta-analyses showed that the interventions resulted in small but statistically significant increases in question asking and patients' satisfaction, a large but not statistically significant decrease in anxiety before consultations, and small but not statistically significant effects on anxiety after consultations and length of consultations. The effects of the interventions on patients' knowledge are unclear owing to methodological difficulties.

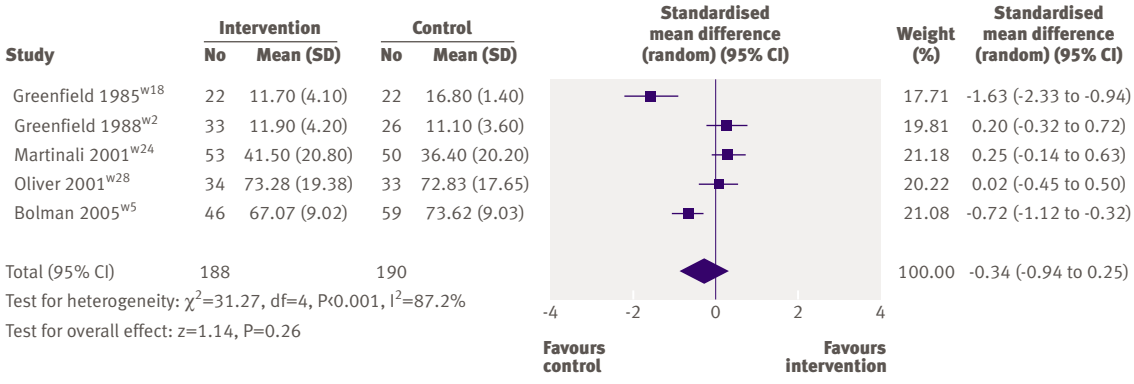

Fig 5 | Effect on patients' knowledge of interventions to encourage patients to ask questions in consultations

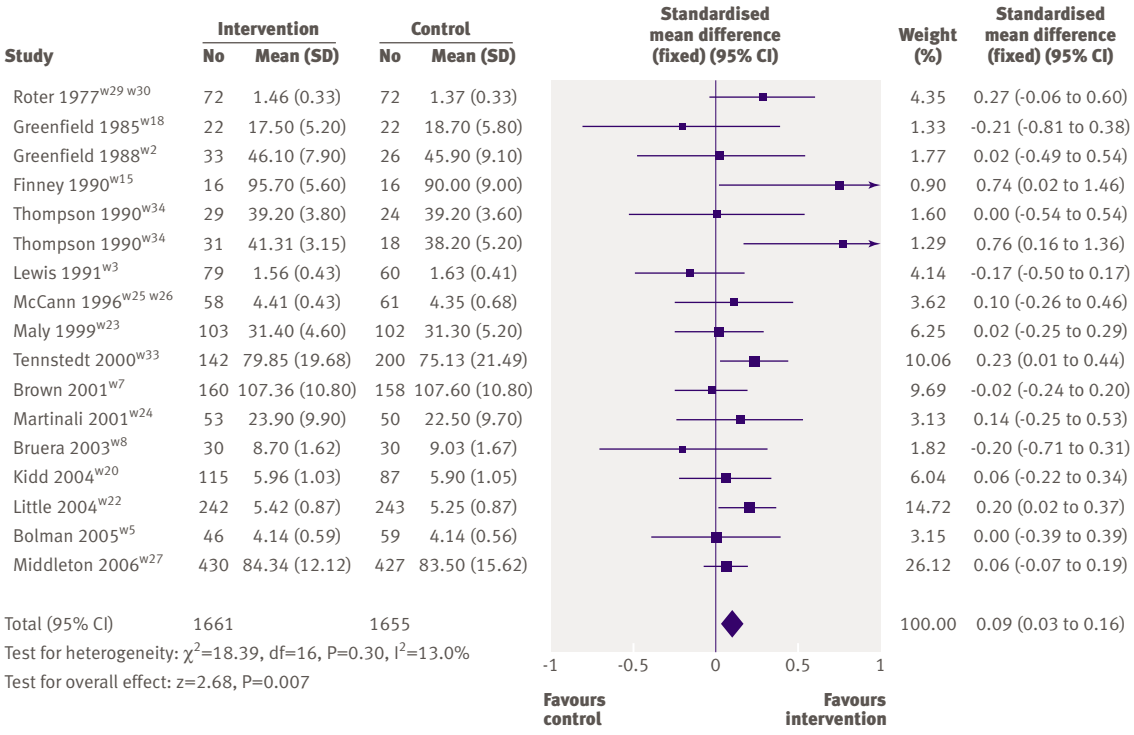

Fig 6 | Effect on patients' satisfaction of interventions to encourage patients to ask questions in consultations

Strengths and weaknesses

We identified a large number of trials that aimed to improve the amount and content of information patients obtain during consultations. We used a comprehensive, externally peer reviewed, search strategy, which identified more trials than other related reviews of broader study designs.[32-36] We also clarified published data with the authors. No other review has carried out meta-analyses of these trials as far as we are aware and because the number of trials is relatively large, the new data clarify the effects of the interventions. Other reviews in this area are broadly supportive of interventions to promote information gathering by patients, identifying a range of beneficial outcomes.[32 33] Our meta-analyses allowed formal statistical evaluation of the data and suggest that the evidence of benefits is less compelling.

Despite our efforts to search comprehensively we may have missed some studies. Although we contacted authors we only identified published trials for inclusion in the review. Unpublished studies would more likely have shown null results and so our findings may overestimate the effects of interventions. Furthermore, an English language bias may exist because of the databases searched. We restricted the review to studies of patients consulting doctors or nurses but it is possible that interventions have been tested in patients consulting other health professionals. However, as doctors and nurses are considered by patients to be their main source of information about major illnesses, we believe that we have reviewed the most important area of relevant literature. In our meta-analyses we combined the effects of interventions across varied settings (primary and secondary care, short and long consultations). Individual interventions may perform better in particular settings and the process of combining studies may lose an element of specificity in attempting to produce a generalisable example.

The increase in question asking we found shows a direct effect of the interventions and that simple interventions can influence the clinical dialogue. The small increase in patients' satisfaction is consistent with other reports of benefits from patient centred consulting styles.[40-42] A possible explanation for the limited effects is that many clinicians and patients adopt ritualised styles of consulting on the basis of previous experience.[43] These may not be readily changed by

Table 3 | Comparison of meta-analyses with and without data from studies judged to have inadequate concealment of allocation

Comparison	Effect size all data (95% CI)	Effect size without inadequate studies (95% CI)
Intervention *v* control:		
Question asking	0.27 (0.19 to 0.36)	0.26 (0.17 to 0.35)
Patient satisfaction	0.09 (0.03 to 0.16)	0.10 (0.03 to 0.17)
Consultation length	0.10 (−0.05 to 0.25)	0.12 (−0.03 to 0.28)
Written materials *v* coaching:		
Written materials: question asking	0.42 (0.26 to 0.59)	0.37 (0.18 to 0.55)
Written materials: satisfaction	0.08 (0.00 to 0.16)	0.09 (0.00 to 0.17)
Coaching: satisfaction	0.23 (0.08 to 0.38)	0.18 (−0.03 to 0.39)
Written materials: consultation length	0.13 (0.05 to 0.21)	0.16 (0.08 to 0.24)
Clinician training:		
Not trained: satisfaction	0.13 (0.05 to 0.21)	0.12 (0.04 to 0.21)
Not trained: consultation length	0.17 (0.10 to 0.24)	0.17 (0.09 to 0.24)

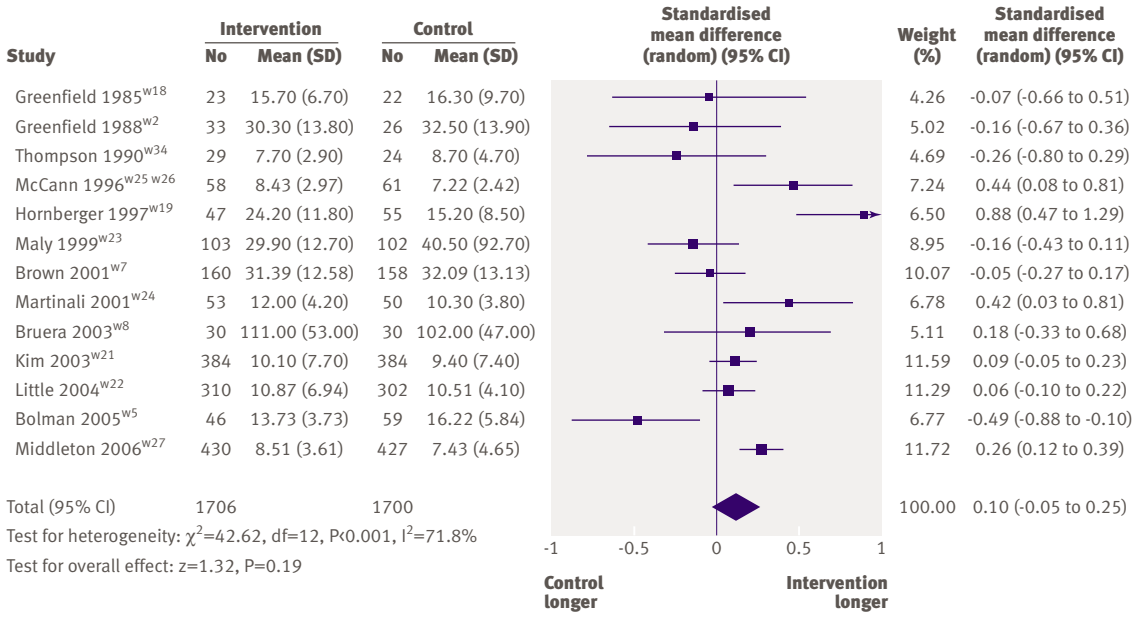

Fig 7 | Effect on consultation length of interventions to encourage patients to ask questions in consultations

interventions, particularly if delivered only once, immediately before the consultation, as part of research projects, and targeted at only one participant in the consultation. The possibility that interventions could reduce patients' anxiety before consultations is of interest but the data we reviewed on this are inconclusive. Patients attending consultations may feel uncertain about getting an opportunity to express their concerns. Enabling them to organise their thoughts by considering the questions they might want to ask may reduce anxiety. One study,[w9] however, which involved patients with cancer showed an increase in anxiety. Another study[w5] found that fewer patients used the intervention at successive consultations and that anxiety increased before each successive consultation. Anxiety may not improve and may even increase if clinicians do not respond appropriately to questions asked by patients. Secondly, anxiety may increase if the information given in response to a question is worrying. This would be particularly likely, for example, in oncology clinics (nine included studies). We expected that the interventions in this review would foster a sense of control because patients would have identified and possibly practised asking questions. This preparation may have disturbed the delicate balance of power and authority in the consultation, however, and generated difficulties for patients so that they moved back to their usual mode of consulting. The latter phenomenon has also been identified in, for example, studies of the use of information from the internet in consultations.[44] More intense interventions such as coaching had few additional benefits over simpler written interventions that required little clinic time to administer. It has been suggested[w9 w16 w29] that interventions would be more effective if supported by training of clinicians. We found no consistent evidence for this from the small number of studies available.

Although evidence is lacking of an increase in consultation length as a result of the interventions, the data could be considered to indicate a trend to longer consultations. It would not be surprising if encouraging patients to ask questions were to lead to an increase in length of consultations, and because of this clinicians might be concerned about the interventions. Data analysed from 17 studies, however, provide some reassurance as these interventions do not lead to sizeable increases in length of consultations. No study explored whether the time within the consultation was spent differently (with overall length remaining unchanged) although this has been found with patient centred interventions in other specialties.[45] How the clinician and patient use the time may be as important as the amount of time itself.[46]

Some patients might find the interventions more helpful than others. Many of the studies were set in oncology clinics. This may reflect oncologists' interest

Table 4 | Comparison of meta-analyses with and without clustered data

Comparison	Effect size all data (95% CI)	Effect size without clustered studies (95% CI)
Intervention *v* control:		
Anxiety (after consultations)	−0.08 (−0.22 to 0.06)	−0.09 (−0.23 to 0.06)
Patients' satisfaction	0.09 (0.03 to 0.16)	0.09 (0.02 to 0.16)
Consultation length	0.10 (−0.05 to 0.25)	0.05 (−0.08 to 0.18)
Written materials *v* coaching:		
Coaching: satisfaction	0.23 (0.08 to 0.38)	0.18 (−0.03 to 0.39)
Written materials: consultation length	0.13 (0.05 to 0.21)	0.10 (0.02 to 0.18)
Clinicians' training:		
Trained: satisfaction	−0.01 (−0.15 to 0.12)	0.02 (−0.14 to 0.17)
Not trained: satisfaction	0.13 (0.05 to 0.21)	0.12 (0.03 to 0.20)
Not trained: consultation length	0.17 (0.10 to 0.24)	0.15 (0.07 to 0.22)

WHAT IS ALREADY KNOWN ON THIS TOPIC

Patients often struggle to ask questions in consultations or get appropriate answers

Studies suggest that prompt sheets or coaching to ask questions might be effective

WHAT THIS STUDY ADDS

Question asking and patients' satisfaction increase with use of prompt sheets and coaching but evidence of other benefits is small

Other interventions might also be needed to help patients gather information from their clinicians

in providing information to patients and the complex information needs of patients with cancer.[47] Two studies[w10-w12 w25-w26] explored the impact of the interventions on different patient groups, showing that young white educated patients from the middle classes, asked more questions than other groups. Further research is needed to identify those patients in whom interventions are likely to be most beneficial. Studies should also assess the possible harms of such interventions—for example, increasing specific anxieties or disparities of access and care across groups. In this review no study explored the use of the same intervention in different settings.

Encouraging patients to participate actively in consultations is an important aspect of patient centred care.[48] If, as the evidence here suggests, interventions to help patients address their information needs lead to increases in question asking but little other benefit, it casts doubt on what has been considered an important approach to patient care. Further research is needed before a final conclusion can be reached. In particular, more studies need to be undertaken in which the strength of the intervention is maximised. The goal would be to change the overall culture of the consultation, with patients empowered through question prompt sheets and other interventions that are clearly part of usual care, rather than one-off interventions delivered just before consultations. Similarly, studies should explore more targeted and intensive training for clinicians in parallel with interventions directed at patients and evaluate more thoroughly the effects of their training particularly for providing patients with the information they want. If patients were encouraged routinely to identify questions for their clinicians before consultations, and if clinicians were routinely and effectively trained to address patients' concerns, it is likely that both patients and clinicians would benefit.

Conclusions

The benefits of the interventions reviewed here are limited. Focusing on the patient alone may not produce long term benefits for patients because of the complexity of the dialogue between patients and clinicians.[49] Successful consultations require that patients and clinicians agree on the nature of the problem and what could and should be done.[48 50] The interventions reviewed here may assist information exchange. Decision making must be shared, however, and clinicians need to be sufficiently flexible to respond to the varying preferences for information and involvement of different patients or of the same patient in different circumstances.[51-54] Thus a combined approach is probably required in which willing patients are encouraged and helped to participate in their consultations, and clinicians have the skills to identify and adapt to the needs of their patients.

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